Amendment to the Claims:

1. (Currently amended) A method of magnetic resonance imaging comprising the steps of:

a) providing a magnetic field within an imaging volume,

b) moving a subject continuously along a predetermined path passing through the imaging volume,

c) defining a sub-volume of the imaging volume[[,]] that moves together with the subject, the sub-volume being selected such that the time of movement of the sub-volume within the imaging volume is sufficient for magnetic resonance image data acquisition of the sub-volume with a predefined resolution,

d) performing a ~~step of~~ magnetic resonance image data acquisition for the sub-volume while the sub-volume remains within and moves continuously relative to the imaging volume,

e) defining a subsequent sub-volume which neighbours the sub-volume on the predetermined path to perform a subsequent step of magnetic resonance image data acquisition for the subsequent sub-volume as the subject and the subsequent sub-volume move together continuously through the imaging volume.

2. (Currently amended) The method of claim 1, ~~whereby~~ wherein the sub-volume is a slab and a three-dimensional imaging method ~~is~~ used for the step of magnetic resonance image data acquisition ~~for the sub-volume~~ includes applying gradient pulses that define a slab which moves with the subject.

3. (Currently amended) The method of claim 1, ~~whereby~~ wherein a multislice imaging method is used for the step of magnetic resonance image data acquisition for the sub-volume, the sub-volume containing a stack of two dimensional slices along the predetermined path.

4. (Currently amended) The method of claim 1 wherein the sub-volume ~~having~~ has an extension along the predetermined path between 3 and 7 cm.

5. (Previously presented) The method of claim 1, the speed of movement being between 0.5 and 5 mm per second.

6. (Previously presented) The method of claim 1, whereby the magnetic resonance image data acquisition is performed by means of a parallel imaging technique.

7. (Original) The method of claim 6 whereby a SENSE-type parallel imaging technique is used.

8. (Previously presented) The method of claim 1, the magnetic resonance image data acquisition being cyclically repeated, whereby one repetition is performed for each one of the sub-volumes.

9. (Previously presented) The method of claim 1, the sub-volumes having a first extension along the predetermined path, the imaging volume having a second extension along the predetermined path, the second extension being at least twice the first extension.

10. (Currently amended) A computer readable medium containing instructions for controlling a computer system for magnetic resonance imaging comprising ~~the steps of~~:

- within a magnetic resonance sequence including a pulse sequence, defining a sub-volume of an imaging volume provided by a magnetic field, adjusting the pulse sequence to continuously ~~moving~~ move a sub-volume along a predetermined path together with a subject, and performing magnetic resonance image data acquisition for the sub-volume as it moves together with the subject, the sub-volume being selected such that the time of movement of the sub-volume within the imaging volume is sufficient for the performing of the magnetic resonance image data acquisition with a preferred resolution, and

- within the magnetic resonance sequence, defining a subsequent sub-volume which neighbours the sub-volume on the predetermined path and adjusting the pulse sequence to perform a subsequent step of magnetic resonance image data acquisition from the subsequent sub-volume as the subject and the sub-volume move together continuously.

11. (Previously presented)The computer readable medium of claim 10, the program means being adapted to be employed for a parallel imaging technique.

12. (Previously presented) A magnetic resonance imaging device comprising:

a magnet system configured to generate a magnetic field within an imaging volume;

a subject support configured for moving a subject continuously along a predetermined path through the imaging volume; and

a control unit configured for generating of control signals for magnetic resonance image data acquisition within a sub-volume of the imaging volume, the sub-volume being moved along the predetermined path along with the subject, the sub-volume being selected such that the time of movement of the sub-volume within the imaging volume is sufficient for magnetic resonance image data acquisition with a predefined resolution and for subsequent magnetic resonance image data acquisition within a subsequent sub-volume which neighbours the sub-volume on the predetermined path.

13. (Previously presented) The magnetic resonance imaging device of claim 12, the subject support being configured to move the subject with a speed of 0.5 to 5 mm per second.

14. (Previously presented) The magnetic resonance imaging device of claim 12 further comprising means for performing a parallel imaging technique based on simultaneous reception through multiple receive channels.

15. (Previously presented) The magnetic resonance imaging device of claim 12, the control unit being configured to perform cyclic repetitions of the magnetic resonance image data acquisition.

16. (Previously presented)The magnetic resonance imaging device of claim 12, the sub-volumes having a first length along the predetermined path and the imaging volume having a second length along the predetermined path, the second length being at least twice the first length.

17. (Previously presented)The magnetic resonance imaging device of claim 12, the predetermined path being a straight line and the magnet system comprising a cylindrical magnet.

18. (Currently amended) The ~~magnetic resonance imaging device~~ method of ~~claim 12~~ claim 1, the predetermined path being curved ~~and the magnet system comprising an open magnetic resonance system~~.

19. (Previously presented) The method of claim 1, further comprising:

correcting the acquired magnetic resonance image data for zero order phase error accumulated due to the continuous moving.

20. (Previously presented) The method of claim 1, further comprising:

processing the acquired magnetic resonance image data to form an image of a subject section to be imaged; and

visualizing the image of the subject section.